

Karnal Bunt or Partial Bunt of Wheat

February, 2006

Karnal bunt caused by *Tilletia indica* was first discovered in the United States in 1996. Durum wheat seed was identified in Arizona that year infected with the exotic fungal disease. Subsequently, USDA and state regulatory agencies began regulatory measures to determine the extent of the infestation and to eradicate the disease. The disease was subsequently found in California in a limited number of fields that year along with numerous locations in Arizona. In 1997, the disease was found in an isolated county of San Saba in Texas. In 2001, four counties in north central Texas considered part of the Great Plains production area which Kansas is a part of, were discovered with the disease. This discovery raised the concern in Kansas with implications regarding movement and mixing of grain, grain harvesting equipment, and the importation of seed from neighboring states.



Karnal bunt is an export driven regulated disease. It is regulated by numerous countries including the United States in importation or movement of grain, seed, and related commodities. Yields in the few countries where the disease has established itself are not negatively affected to any significant amount but some loss in quality has been noted at severe levels.

The Kansas Department of Agriculture has been conducting surveillance for the disease since 1993 through cooperative programs with industry, Kansas State University, and the United States Department of Agriculture. Well over 6,000 samples have been analyzed with surveys of grain and seed. Currently, about 370 samples or one sample per million bushels of production are tested annually for the disease.

A few interceptions of Karnal bunt infested seed and harvesting equipment have been made since 1996 in Kansas. Regulatory action was taken before the material was allowed to infest Kansas production. As of this date, Karnal bunt is not known to be established in either grain or seed production within the state.

The disease is spread primarily through infested seed from one farm to another or from one country to another. Buying seed that has been tested and found free of the disease is the best way of preventing the introduction into a farming operation. The fungus infects the wheat florets and developing ovary. Ideal conditions are cool weather, rainfall, and high humidity during heading. Harvested grain or seed often will have a fishy smell from the partial bunt however other bunts found in Kansas also produce this smell. The disease does not pose a health hazard to consumers. If you suspect that your wheat grain or seed is infected, please contact your local county extension agent or the Kansas Department of Agriculture at (785) 862-2180.

